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INTELLECTUAL PROPERTY LAW
Patents-Copyrights-Trademarks

Joel D. Skinner, Jr.*
Marvin L. Beekman**

* WI and MN Bar, Reg. Patent Attorney
** MN Bar , Reg. Patent Attorney

March 7, 2000

Assistant Commissioner for Patents
Box PCT
Washington, D.C. 20231

Re: US NATIONAL STAGE APPLICATION UNDER THE PCT
Title: A POLE
Intl. Appl. No.: PCT/FI98/00696
Intl. Filing Date: 8 Sept. 1998
Priority Date: 8 Sept. 1997

Dear Sir:

Enclosed for filing as a National Stage application under 35 U.S.C. 371 are:

[X] Check for at Least Basic national fee under 37 CFR 1.492 (a) (3).
[X] Copy of the International Application ([X] INCLUDING AN INTERNATIONAL SEARCH REPORT).
[X] Declaration and Power of Attorney of the inventor(s), ([ ]Unexecuted, Late Filing Practice).
[X] Verified Statement of Small Entity Status ([ ] unexecuted, refund application anticipated).
[X] Preliminary Amendment under 37 CFR 1.115.
[X] Certificate of Mailing -Express (Below).
[X] Post Card Receipt.
[X] Copy of International Preliminary Examination Report ([X] with Annexes).
[ ] Other:

[X] A copy of the International Application has been communicated to the USPTO by the IB.

FEE COMPUTATION

FEE	LARGE/SMALL ENTITY	FEE DUE
Basic National Fee Under 37CFR1.492(a) ( )		$485.00
Each Extra Total over 20		$
Each Extra Independent over 3		$
At Least One Multiple Dependent		$
	TOTAL FEE(S) DUE	$485.00

[X] Please charge any underpayment in the basic national fee under 37 CFR 1.492 ONLY to Deposit Account No. 19-2381. A copy of this paper is enclosed. The Patent Office staff is invited to call the undersigned attorney should they have any questions about this application.

Respectfully submitted,

Joel D. Skinner, Jr., Reg. No. 33,786
Enclosures
cc: Pauli Laitinen
J:\CLIENTS\Laitinen-Finland\Pole696(Jernstrom)\000306PTO-AppFileLtr.doc

CERTIFICATE OF MAILING (IF APPLICABLE)

Express Mail No.: EL060891256US
Date of Deposit: 07 March 2000. I hereby certify that I personally deposited this paper/fee with the United States Postal Service "Express Mail Post Office to Addressee" service, under 37 CFR 1.10, on the date indicated above.

Shannon M. Strobel
Name

Shannon M. Strobel
Signature

PTO/SB/10 (10-96)
Approved for use through 10/31/98. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) & 1.27(c))--SMALL BUSINESS CONCERN

Docket Number (Optional): PAT121USA

Applicant or Patentee: Jernatrom
Application or Patent No.:
Filed or Issued:
Title: A POLE

I hereby declare that I am
- ☐ the owner of the small business concern identified below:
- ☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF SMALL BUSINESS CONCERN: JEROL INDUSTRI AB

ADDRESS OF SMALL BUSINESS CONCERN: c/o ONAB, Lilldammsvagen 1, S-747 44 Gimo
SWEDEN

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time, or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in:

- ☒ the specification filed herewith with title as listed above.
- ☐ the application identified above.
- ☐ the patent identified above.

If the rights held by the above identified small business concern are not exclusive, each individual, concern, or organization having rights in the invention must file separate verified statements averring to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

- ☒ Each person, concern, or organization having any rights in the invention is listed below:
  no such person, concern, or organization exists.
- ☐ each such person, concern, or organization is listed below.

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: JERNSTRÖM, Rolf

TITLE OF PERSON IF OTHER THAN OWNER: Chairman of the Board

ADDRESS OF PERSON SIGNING: Skutvägen 1, FIN-10600 Ekenäs, Finland

SIGNATURE: Rolf J. DATE: 2 March 2000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Jernstrom, Rolf

International Application No.: PCT/FI98/00696

International Filing Date: 08 Sept. 1998

Priority Date: 08 Sept. 1997

Title: A POLE

Group Art Unit:

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Box PCT
Washington, D.C. 20231

Dear Sir:

Please enter the following amendment to the application.

IN THE CLAIMS:

Please amend the claims as follows:

1. (Amended) A post [(1)] for use in leading an electrical current signal or the like, comprising [which is especially] a hollow, tube-like piece [and which is intended to be used particularly in places, in which it is intended to lead an electrical current, signal or similar to it, characterized in that the post (1) includes] and, as an integral part, at least one lead [(5)] or wiring harness [for conducting the current, signal or similar,] or one or more feedthrough devices for a lead or wiring harness, whereby the post [has a construction] is constructed of at least two layers [or on their surface].

2. (Amended) A post according to Claim 1, characterized in that the post [(1)] has a double-layered construction [(3, 4)].

3. (Amended) A post according to Claim 1, characterized in that the lead or wiring harness [(5)] are connected to one or more connectors [(6)], at least in [the] a lower section of the post.

4. (Amended) A post according to [one of the above Claims] Claim 1, characterized in that at least one of the layers [(3, 4)] is formed from a flexible material.

5. (Amended) A post according to Claim 1, characterized in that the lead or wiring harness [(5)] is located in [the] an interface between two of the [structural] layers [(3, 4)] of the post.

6. (Amended) A post according to Claim 1 characterized in that the feedthrough device for the lead or wiring harness [(5)] is a pipe.

REMARKS

This Preliminary Amendment is made for the purpose of bringing the PCT based application closer to US practice standards and not necessarily to limit the claims.

Should the examiner have any comments or questions please notify applicant's attorney.

Respectfully submitted,

Joel D. Skinner, Jr.
Reg. No. 33,786

Date: 3-7-00

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619 Second Street, Suite 201
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cc: Pauli Laitinen

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514 Rec'd PCT/PTO 07 MAR 2000

A Pole

The present invention relates to a post, especially, but not exclusively, a post that can be used, for example, in traffic signs, streetlights, traffic lights and various signposts.

Posts for such purposes are manufactured from many different materials and are generally hollow for many reasons, such as saving material. Various kinds of metal post appear to be the most commonly used. Other alternatives include posts made from reinforced and other plastics. Wooden posts are also in general use.

Posts supporting different kinds of electically operated devices, such as traffic lights or lighting devices in general, or other devices to which data or even only current must be led, require the addition of suitable wiring to conduct signals or current. Conventionally, this is achieved by leading suitable wiring into the post from below, and connecting it to wiring inside the post by means of an access plate in the post. This plate is generally large and significantly reduces the durability of the post.

This invention is intended to create a post, in which some or all of the above detriments have been eliminated, achieving a prefabricated, highly adaptable type of post for very many different applications.

The above and other benefits and advantages of this invention are achieved in the manner described as characteristic in the accompanying Claims.

The invention is next described by reference to the accompanying drawings, which illustrate practical applications of the best embodiments of the invention.

Thus, Figure 1 shows a cross-section of one embodiment of a post according to the invention, and

Figure 2 shows one possible arrangement of the connection between a post according to the invention and external devices.

Thus, Figure 1 shows a non-scale diagram of the cross-section of a post 1 according to the invention. The post is specifically hollow, and so contains a longitudinal hollow core 2. The basic construction of the post is double, with an inner layer 3 and an outer layer 4. The thicknesses of these layers 3 and 4 may differ completely from to those shown in the figure. The most likely wall thicknesses are obviously less than those shown.

In this application, the invention is illustrated by a double-layered construction, which, however, is in no way essential. The situation would be absolutely identical, if there were only one layer, or if more layers were added to make three or more.

Figure 1 shows exaggerated enlargements of five places where the basic concept of the invention, i.e. a preinstalled lead or wiring harness 5, can be located according to the invention. It is highly probable that only one or two of the locations referred to above will be used, with, for example, one wiring harness located on one side of the post and the other on the other side, so that wiring 5 can be in the same, or a different position in relations to layers 3 and 4 of the post.

Therefore, wiring can be located on the inner surface of the tube-like post, within the inner layer 3, on the interface of layers 3 and 4, in the outer layer 4, or on the surface of the outer layer 4. In a single-layer construction, there are naturally only three locations, on the surfaces of, or within the layers. The location depends to a great extent on the material of the post. It is obvious, that, if a metal tube is used for the post, it will not be technically feasible, or at least sensible, to place the wiring within this kind of layer. However, if plastic materials are used, it will be easy to place the wiring inside a layer.

On the other hand, there are many cases, in which it is inappropriate to locate the wiring at the same point within the cross-section over the entire length of the post. Thus, in such cases, the wiring can move from one location to another. For example, the wiring may be placed between two layers in the upper part of the post, and move to the inner surface in the lower part. Depending on the situation, the transfer may be inwards or outwards, or even vary, as required. In one possible alternative, the wiring may form a spiral or other non-linear structure around the post.

It should be noted at this stage that a 'layer' is a very vague concept in this invention, and that, for example, a situation, in which wiring is pre-attached by a tape-like layer to the outer surface of the post, will fall within the invention's scope of protection. The above reference is intended to extend the scope of protection to very thin layers too.

As stated above, the construction of the post may, in practice, vary very greatly. One example of a construction may have a single plastic layer reinforced by a suitable laminating method and placed on top of a suitable inner layer 3, so that the wiring harness, suitably protected by the outer layer, lies in the interface of the two layers. The inner layer can be made from almost any material, for example, celluar plastic, as it is mainly intended as a base for the formation of the outer layer. Naturally, the inner layer may even be a metal tube. Any reinforcement known to the art, such as glass or other fibres, fabric, netting or similar can be added to the layers to reinforce them. As stated above, there may be several layers, when their materials and manners of manufcture may vary according to the prevailing requirements.

Figure 2 shows diagrammatically how a post according to the invention can be prefabricated, so that connector 6, to which the leads 5 are attached is placed in the lower section of post 1. On the other hand, there may be several connectors, connecting to different wiring harnesses, when the connector corresponding to the current requirements is guided into connector 7 in base 8, which may be of any type and shape whatever, to which leads 9 are led from outside. If there are several connectors 6 within the post, a suitable connector is guided to connector 7 by turning the post, so that the connectors it is intended to join are opposite one another, and then pushing the post into the base. A rotating movement can also be used, for example, to bring the connectors into proper contact with each other. As such, the connectors may be of any known type at all. In Figure 2, the leads are shown as being brought into the inner core of the post through a hole 10 in the wall of the post, for example, from the space between layers 3 and 4.

Instead of wiring being installed directly in the post to take a signal or similar from one point to another, the basic idea of the invention also includes the alternative that, in place of the wiring, an instrument or instruments can be located in the post, by

means of which a lead can be easily and quickly set in place. In practice, such a feed-through device is usually a tube, inside which the wiring can be pushed. Though a plastic tube with a circular cross-section is usually the cheapest and most suitable alternative, it is obvious that the shape of the tube or similar is of no significance. What is important, however, is that the device forms a suitable, easily used channel for the incoming wiring.

The arrangement described above avoids the need to make hatches in the cover of the post. Installation is easy and quick. The invention can also be easily adapted to posts that are not of a single diameter, but which taper conically evenly or narrow in steps. The latter model is in quite general use, particularly in lampposts. In this case, the post is made by joining together sections of metal piping with decreasing diameters. Particularly in this situation, the outer layer is unified throughout the entire length of the post. The outer layer can be made, for example, from a suitable plastic material.

All in all, it is believed that a prefabricated post according to the invention brings significant advantages compared to the posts that are in use at present. In a post according to the invention has the additional advantage that, if necessary, the wiring is extremely well protected. The permanence of the protection can be increased by selecting a suitable material.

Claims

1. A post (1), which is especially a hollow, tube-like piece and which is intended to be used particularly in places, in which it is intended to lead an electrical current, signal or similar to it, **characterized** in that the post (1) includes, as an integral part, at least one lead (5) or wiring harness for conducting the current, signal or similar, or one or more feedthrough devices for a lead or wiring harness, whereby the post has a construction of at least two layers and the wires or the feedthrough devices are located between or within the layers or on their surface.

2. A post according to Claim 1, **characterized** in that the post (1) has a double-layered construction (3, 4).

3. A post according to Claim 1, **characterized** in that the lead or wiring harness (5) are connected to one of more connectors (6), at least in the lower section of the post.

4. A post according to one of the above Claims, **characterized** in that at least one of the layers (3, 4) is formed from a flexible material.

5. A post according to Claim 1, **characterized** in that the lead or wiring harness (5) is located in the interface between two of the structural layers (3, 4) of the post.

6. A post according to Claim 1 **characterized** in that the feedthrough device for the lead or wiring harness (5) is a pipe.

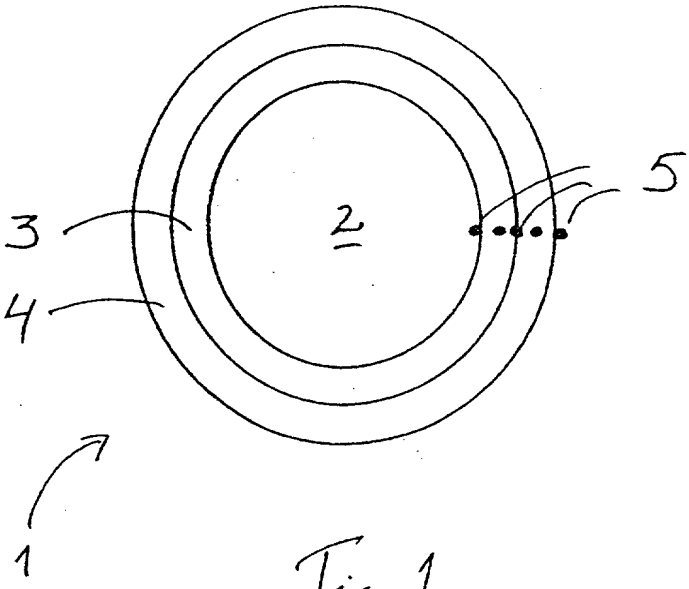

Fig. 1

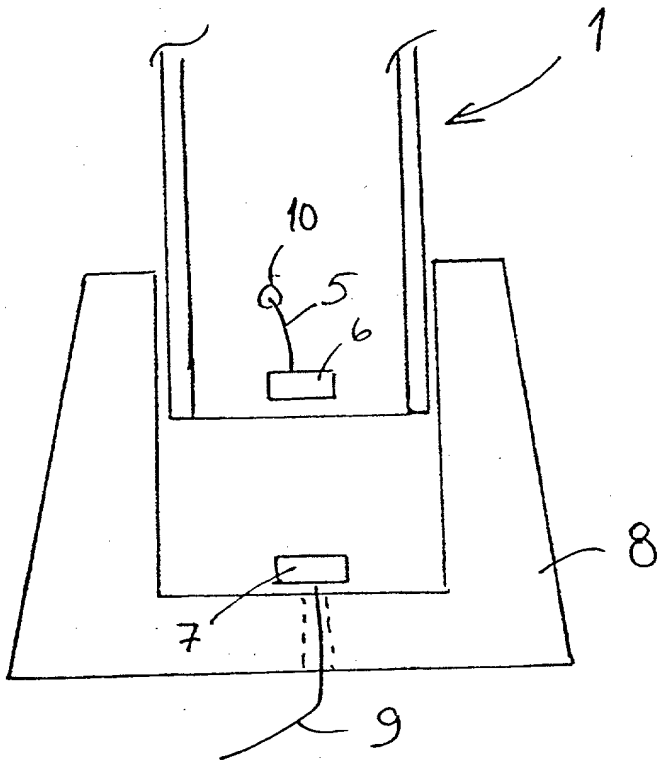

Fig 2

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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION

[x] Declaration Submitted with Initial Filing OR [ ] Declaration Submitted after Initial Filing

Attorney Docket Number	PAT12IUSA
First Named Inventor	Jernstrom
COMPLETE IF KNOWN	
Application Number	
Filing Date	
Group Art Unit	
Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled :

A POLE

(Title of the Invention)

the specification of which

[ ] is attached hereto

OR

[x] was filed on (MM/DD/YYYY) [ ] as United States Application Number or PCT International Application Number PCT/FI98/00696 and was amended on (MM/DD/YYYY) [ ] (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code §119 (a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or §365 (a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	Certified Copy Attached? NO
973627	Finland	09/08/1997	[ ]	[ ]	[x]
974586	Finland	12/19/1997	[ ]	[ ]	[x]
			[ ]	[ ]	[ ]
			[ ]	[ ]	[ ]
			[ ]	[ ]	[ ]
			[ ]	[ ]	[ ]

[ ] Additional foreign application numbers are listed on a supplemental priority sheet attached hereto:

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)

[ ] Additional provisional application numbers are listed on a supplemental priority sheet attached hereto.

Please type a plus sign (+) inside this box → [+]

PTO/SB/01 (8-96)
Approved for use through 9/30/98. OMB 0651-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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DECLARATION

I hereby claim the benefit under Title 35, United States Code §120 of any United States application(s), or §365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application Number	PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (If applicable)
	PCT/FI98/00696	09/08/1998	

☐ Additional U.S. or PCT International application numbers are listed on a supplemental priority sheet attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Name	Registration Number	Name	Registration Number
Joel D. Skinner, Jr.	33,786		
Marvin L. Beekman	38,377		

2

☐ Additional registered practitioner(s) named on a supplemental sheet attached hereto.

Direct all correspondence to:

Name	Skinner and Associates				
Address	Attn: Joel Skinner				
Address	619 Second St., STE. 201				
City	Hudson	State	WI	ZIP	54016
Country	US	Telephone	(715) 386-5800	Fax	(715) 386-6177

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor: ☐ A petition has been filed for this unsigned inventor

Given Name	Middle Initial	Family Name	Suffix e.g. Jr.
Rolf		Jernstrom	

FIX

Inventor's Signature		Date
Rolf J		2 MARCH 2000

Residence: City	State	Country	Citizenship
Ekenas		FINLAND	FI

Post Office Address	Skutvagen 1, FIN-10600
Post Office Address	

City	State	Zip	Country
Ekenas			FINLAND

☐ Additional inventors are being named on supplemental sheet(s) attached hereto

United States Patent & Trademark Office

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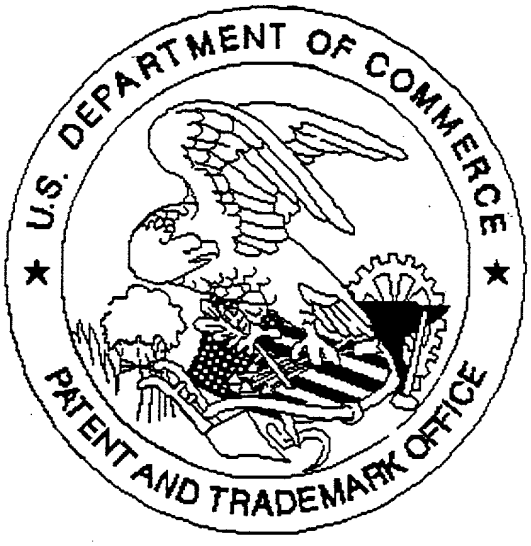

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